

Appln No. 09/939,196 3  
Reply to Office action of 1/21/04

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1. (previously amended) A fuel additive composition comprising:

a sustained release component and an additive component, the additive component is effective to provide at least one benefit to a fuel when released into the fuel,

the sustained release component is (1) substantially insoluble in the fuel, and (2) effective to reduce the rate of release of the additive component into the fuel relative to an identical composition without the sustained release component, the sustained release component comprises at least one polymeric material including polymer repeating units from an olefin monomer having 2 to about 12 carbon atoms per molecule.

Claims 2 and 3: (canceled)

Claim 4. (original) The additive composition of claim 1 wherein the sustained release component is mixed with the additive component.

Claim 5. (original) The additive composition of claim 4 wherein the sustained release component is present as a matrix in which the additive component is located.

Claim 6. (previously amended) The additive composition of claim 1 wherein the sustained release component coats the additive component.

Claim 7. (original) The additive composition of claim 5 which further comprises an additional sustained release component coating the matrix and the additive component.

Claim 8. (currently amended) An additive composition comprising:

a matrix material and an additive component, the additive component being ~~located~~ distributed in the matrix material and effective, when released into a fuel, to provide at least one benefit to the fuel,

wherein the matrix material comprises at least one polymeric material and is (1) substantially insoluble in the fuel and (2) effective to reduce the rate of release of the additive component into the fuel relative to an identical composition without the matrix material.

Claim 9: (canceled)

Claim 10. (original) The additive composition of claim 8 wherein the matrix material is initially a solid in the composition.

Claim 11. (original) The additive composition of claim 8 wherein the matrix material is initially in a form selected from the group consisting of a gel and a paste.

Claim 12. (previously amended) The additive composition of claim 8 wherein the matrix material comprises more than one polymeric material.

Claim 13. (previously amended) The additive composition of claim 8 wherein the polymeric material includes polymer repeating

units derived from an olefin component having 2 to about 12 carbon atoms per molecule.

Claim 14. (previously amended) The additive composition of claim 8 wherein the polymeric material comprises a polymer of ethylene.

Claim 15. (previously amended) The additive composition of claim 8 wherein the polymeric material comprises a copolymer of ethylene and vinyl acetate.

Claim 16. (previously amended) The additive composition of claim 8 wherein the polymeric material is at least partially oxidized or at least partially amidized.

Claim 17. (previously amended) The additive composition of claim 8 wherein the polymeric material is an oxidized polyethylene wax or an oxidized polypropylene wax.

Claims 18-20: (canceled)

Claim 21. (original) The additive composition of claim 8 wherein the composition has more than one layer, each layer comprises a different mixture of the additive component and the matrix material.

Claim 22. (original) The additive composition of claim 8 further comprising a coating material surrounding at least a portion of the additive component and the matrix material, the coating material being present in an amount effective to reduce the rate of release of the additive component into the fuel relative to an identical additive composition without the coating material.

Claim 23. (original) The additive composition of claim 22 wherein the coating material comprises a coating polymeric material.

Claim 24. (original) The additive composition of claim 23 wherein the coating polymeric material comprises polyethylene vinyl acetate.

Claim 25. (original) The additive composition of claim 22 wherein the matrix material has a different composition than the coating material.

Claim 26. (original) The additive composition of claim 22 wherein the matrix material has the same composition as the coating material.

Claim 27. (original) The additive composition of claim 22 wherein the composition further comprises a release enhancer component in an amount effective to increase the release rate of the additive component from the composition relative to an identical composition without the release enhancer component.

Claim 28. (original) The additive composition of claim 27 wherein the release enhancer component is selected from the group consisting of wicking materials, surfactants and mixtures thereof.

Claim 29. (original) The additive composition of claim 8 further comprising a reinforcement component in an amount effective to increase the structural strength of the composition relative to an identical composition without the reinforcement component.

Claim 30. (currently amended) An additive assembly comprising:

a housing including a fuel inlet and a fuel outlet; and  
an additive composition disposed within the housing and  
including an additive component and a matrix material comprising at  
least one polymeric material, the additive component being ~~located~~  
distributed in the matrix material and effective, when released  
into a fuel, to provide at least one benefit to the fuel, the  
matrix material is (1) substantially insoluble in the fuel in  
contact with the additive composition and (2) effective to reduce  
the rate of release of the additive component into the fuel  
relative to an identical additive composition without the matrix  
material.

Claim 31. (canceled)

Claim 32. (original) The additive assembly of claim 30 wherein  
the matrix material is substantially hydrocarbon insoluble.

Claim 33. (previously amended) The additive assembly of claim  
30 wherein the polymeric material includes polymer repeating units  
derived from an olefin component having 2 to about 12 carbon atoms  
per molecule.

Claim 34. (previously amended) The additive assembly of claim  
30 wherein the polymeric material includes polymer repeating units  
derived from ethylene.

Claim 35. (previously amended) The additive assembly of claim  
30 wherein the polymeric material comprises a copolymer of ethylene  
and vinyl acetate.

Claim 36. (previously amended) The additive assembly of claim 30 wherein the polymeric material is at least partially oxidized or at least partially amidized.

Claims 37-39: (canceled)

Claim 40. (original) The additive assembly of claim 30 further comprising a coating material surrounding at least a portion of the additive component and the matrix material, the coating material being in an amount effective to reduce the rate of release of the additive component into the fuel relative to an identical additive composition without the coating material.

Claim 41. (original) The additive assembly of claim 40 wherein the coating material comprises a coating polymeric material.

Claim 42. (original) The additive assembly of claim 41 wherein the coating polymeric material is polyethylene vinyl acetate.

Claim 43. (original) The additive assembly of claim 30 wherein the additive composition is present in the housing as a plurality of particles.

Claim 44. (currently amended) A method of producing an additive composition for providing a benefit to a fuel comprising the steps of:

combining an additive component with a matrix material to form a mixture in which the additive component is distributed in the matrix material, the additive component being effective to provide at least one benefit to a fuel when released into the fuel, the matrix material being substantially insoluble in the fuel; and

forming one or more discrete units of the mixture, the matrix material comprises at least one polymeric material, the discrete unit or units of the mixture providing a reduced rate of release of the additive component into a fuel relative to an identical unit or units without the matrix material.

Claim 45. (original) The method of claim 44 wherein the matrix material is substantially hydrocarbon insoluble.

Claim 46. (original) The method of claim 44 wherein the matrix material has a melting point of at least about 82° C and the combining step at least partially occurs with the matrix material in the molten state.

Claim 47. (original) The method of claim 44 which further comprises providing a coating material on the one or more discrete units, the coating material being effective to reduce the rate of release of the additive component into a fuel relative to an identical unit or units without the provided coating material.

Claim 48. (previously added) An additive composition comprising:

a matrix material and an additive component, the additive component being located in the matrix material and effective, when released into a fuel, to provide at least one benefit to the fuel, the matrix material comprises an aliphatic acid component and is (1) substantially insoluble in the fuel and (2) effective to reduce the rate of release of the additive component into the fuel relative to an identical composition without the matrix material.

Claim 49. (previously added) The additive composition of claim 48 wherein the aliphatic acid component includes aliphatic acid molecules having about 18 to about 36 carbon atoms.

Claim 50. (previously added) The additive composition of claim 48 wherein the aliphatic acid component includes aliphatic acid molecules having about 28 to about 36 carbon atoms.

Claim 51. (previously added) The additive composition of claim 18 wherein the aliphatic acid component includes a montanic acid.

Claim 52. (previously added) An additive assembly comprising:  
a housing including a fuel inlet and a fuel outlet; and  
an additive composition disposed within the housing and including an additive component and a matrix material comprising an aliphatic acid component, the additive component being located in the matrix material and effective, when released into a fuel, to provide at least one benefit to the fuel, the matrix material is (1) substantially insoluble in the fuel in contact with the additive composition and (2) effective to reduce the rate of release of the additive component into the fuel relative to an identical additive composition without the matrix material.

Claim 53. (previously added) The additive composition of claim 52 wherein the aliphatic acid component includes aliphatic acid molecules having about 18 to about 36 carbon atoms.

Claim 54. (previously added) The additive composition of claim 52 wherein the aliphatic acid component includes aliphatic acid molecules having about 28 to about 36 carbon atoms.

Claim 55. (previously added) The additive assembly of claim 52 wherein the aliphatic acid component includes a montanic acid.

Claim 56. (previously added) The additive composition of claim 1 wherein the at least one polymeric material includes polymer repeating units from at least one of ethylene and propylene.

57. (previously added) The additive composition of claim 1 wherein the at least one polymeric material includes polymer repeating units from ethylene.

58. (previously added) The method of claim 44 wherein the polymeric material includes polymer repeating units derived from an olefin component having 2 to about 12 carbon atoms per molecule.